

IN THE CLAIMS

Claim 1 (currently amended): A method for cutting integrated circuit packages, comprising:

providing an integrated circuit package; and
cutting the integrated circuit package to be singulated with a water jet.

Claim 2 (original): The method of Claim 1, wherein cutting the integrated circuit package with a water jet comprises:

positioning the integrated circuit package adjacent a water jet;
pressurizing the water jet such that the water jet is operable to cut the integrated circuit package; and
cutting the integrated circuit package to a predetermined shape.

Claim 3 (original): The method of Claim 1, wherein providing an integrated circuit package comprises providing a ball grid array package.

Claim 4 (original): The method of Claim 1, wherein cutting the integrated circuit package with a water jet comprises cutting the integrated circuit package with a water jet having a plurality of abrasive particles.

Claim 5 (original): The method of Claim 2, wherein pressurizing the water jet comprises pressurizing the water jet to a pressure between approximately 500 psi and approximately 2500 psi.

Claim 6 (original): The method of Claim 1, wherein cutting the integrated circuit package with a water jet comprises cutting a plurality of integrated circuit packages by directing the water jet along at least one of a plurality of edges of the integrated circuit packages.

Claim 7 (original): The method of Claim 1, wherein cutting the integrated circuit package with a water jet comprises cutting the integrated circuit package such that an interior portion of the integrated circuit package is accessible for testing.

Claim 8 (currently amended): A method for cutting integrated circuit packages, comprising:

providing an integrated circuit package;
positioning the integrated circuit package adjacent a water jet;
pressurizing the water jet such that the water jet is operable to cut the integrated circuit package to be singulated; and
cutting the integrated circuit package to a desired shape.

Claim 9 (original): The method of Claim 8, wherein providing an integrated circuit package comprises providing a ball grid array package.

Claim 10 (original): The method of Claim 8, wherein cutting the integrated circuit package to a desired shape comprises cutting the integrated circuit package with a water jet having a plurality of abrasive particles.

Claim 11 (original): The method of Claim 8, wherein pressurizing the water jet comprises pressurizing the water jet to a pressure between approximately 500 psi and approximately 2500 psi.

Claim 12 (original): The method of Claim 8, wherein cutting the integrated circuit package to a desired shape comprises cutting a plurality of integrated circuit packages by directing the water jet along at least one of a plurality of edges of the integrated circuit packages.

Claim 13 (original): The method of Claim 8, wherein cutting the integrated circuit package to a desired shape comprises cutting the integrated circuit package such that an interior portion of the integrated circuit package is accessible for testing.

Claim 14 (original): A system for cutting an integrated circuit package, comprising:

a computer operable to generate a predetermined cut pattern for the integrated circuit; and

a water jet machining system operatively coupled to the computer and operable to generate a water jet with a suitable pressure for cutting the integrated circuit package into the predetermined cut pattern.

Claim 15 (original): The system of Claim 14, wherein the water jet machining system comprises:

a water supply;

an intensifier pump operatively coupled to the water supply and operable to pump water through a conduit;

a hydraulic unit operatively coupled to the intensifier pump;

an attenuator operatively coupled to the water and operable to dampen pressure fluctuations of the water in the conduit;

a valve coupled to the conduit and operable to control the flow of the water; and

a nozzle coupled to conduit operable to direct the water along the predetermined cut pattern.

Claim 16 (original): The system of Claim 14, wherein the integrated circuit package is a ball grid array package.

Claim 17 (original): The system of Claim 14, wherein the water jet comprises a plurality of abrasive particles.

Claim 18 (original): The system of Claim 14, wherein the suitable pressure is between approximately 500 psi and approximately 2500 psi.

Claim 19 (original): The system of Claim 14, wherein the predetermined cut pattern comprises a plurality of edges of the integrated circuit package, wherein the integrated circuit package is formed on a polyimide strip.

Claim 20 (original): The system of Claim 14, wherein the predetermined cut pattern comprises a pattern through an interior portion of the integrated circuit package such that the interior portion is accessible for testing.